VantagePoint EMPLOYEE OWNED

September 18, 2017

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th St., S.W., Room TW-A325
Washington, DC 20554

Re: Connect America Fund, WC Docket No. 10-90

Dear Ms. Dortch:

Vantage Point Solutions (VPS) files this response to the FCC's request for input on the process and mechanics related to the upcoming CAF II auction.[1] This filing urges the Commission to grant four relief mechanisms to successful CAF II bidders impacted by the "locations gap" that exists between the model-indicated locations and the actual number of locations within the CAF II eligible census blocks.

VPS is a engineering and consulting firm serving rural telecommunications providers. VPS has been working with dozens of clients in preparation for the CAF II auction and has discovered location gaps in price cap "right-of-first refusal" areas, rate-of-return company model-supported areas, and areas eligible for the FCC CAF II auction. This difference between what the CACM and ACAM models say exists and what actual exists threatens to undermine confidence in the upcoming auction.

Accordingly, Vantage Point Solutions requests the FCC provide a higher level of certainty related to the "locations gap" issue by implementing four policies:

1. Allow carriers to deploy to 95% of the required number of locations without reducing support,
2. Expand the definition of "location" to better meet facts on the ground,
3. Allow carriers having service available to all *actual* locations in a census block to receive credit for having service available to all *model-indicated* locations within that census block, and

[1] FCC 17-101 in WC Docket No. 10-90 *"Comment Sought on competitive bidding procedures and certain program requirements for the Connect America Fund Phase II Auction (Auction 903),"* released August 4th, 2017.

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4. Allow carriers to reduce their deployment obligations with a commiserate support reduction.

The "Locations Gap"

There are at least four indications that the models used by the FCC do not accurately identify the number of actual locations in the field. Because these situations encompass different kinds of companies, regions, regulatory regimes, and technology approaches, they collectively provide a strong suggestion that substantial "locations gaps" will exist in the CAF II auction areas.

1. Vantage Point Study

In recent years numerous commenters have raised concerns related to the difference between the number of locations indicated by the model and the number of actual locations in an area, and VPS filed a study addressing this issue in 2015[2] and updated its work in 2016.[3] That study compared results from the A-CAM "cost to serve" module to actual engineering data from 144 wire-center-wide fiber-to-the-premises (FTTP) projects in more than a dozen states. One key finding of that study was that:

> *"The model overestimates the number of locations in more than 85% of the 144 wire centers examined by Vantage Point, and does so by an average of 22%."*[4]

The Vantage Point study also conducted case study analyses on three already-constructed wire center-wide FTTP networks. The three wire centers were situated across the spectrum of "model-versus-engineering-data" results, but in all three instances the model significantly overestimated locations:

Wire Center	Model Accuracy
Wire Center "Overestimated"	Overestimated locations by **34%**
Wire Center "Close"	Overestimated locations by **23%**
Wire Center "Underestimated"	Overestimated locations by **14%**

Figure 1. Summary of locations gap by case study wire centers.

[2] Ex parte letter from VPS's Larry Thompson filed on July 13, 2015 and accessed at https://ecfsapi.fcc.gov/file/60001114873.pdf.
[3] Ex parte letter from VPS's Dusty Johnson filed on January 6, 2016 and accessed at https://ecfsapi.fcc.gov/file/60001400559.pdf.
[4] Ex parte letter from VPS's Larry Thompson filed on July 13, 2015 and accessed at https://ecfsapi.fcc.gov/file/60001114873.pdf, page 13.

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2. Frontier Communications Filing

Vantage Point Solutions is not the only entity to raise concerns about this issue, however. On December 30, 2015 Frontier Communications filed comments related to the "locations gap."[5] Frontier had developed network plans to meet their right-of-first-refusal obligations and identified "locations gaps" in seven of their states. In the most extreme scenario Frontier found a 34.2% difference between the FCC model-indicated location count and the actual number of eligible locations in that state. Figure 2 is the table that was included with Frontier's comment to the FCC.[6]

State	FCC Model Predicted Location Count	Actual Number of Locations in Eligible Census Blocks	Difference between FCC Model and Actual Locations	Percentage Difference
AZ	22,768	21,960	808	3.5%
CT	1,388	913	475	34.2%
IA	5,438	5,079	359	6.6%
MN	46,910	44,490	2,420	5.2%
NE	3,380	2,349	1,031	30.5%
NM	7,032	6,413	619	8.8%
NY	45,610	45,510	100	0.2%

Figure 2. Table included in Frontier's comment to the FCC December 30th, 2015.

3. Rate-of-Return Model Company Geocoding

Rural rate-of-return providers who selected model-based support in 2016 are also finding instances where the number of actual locations falls short of the model-indicated locations. A number of these providers have undertaken a thorough in-field geocoding process to accurately identify all locations within their model-supported census blocks. This "boots on the ground" approach provides highly accurate geo-coordinate, classification, and count information for locations.

VPS is providing geocoding services to many rate-of-return model companies and has identified a number of instances where the actual locations are considerably smaller than the model-indicated locations. For example, in-field geocoding for one company VPS identified around 850 "locations" that appeared to qualify under the USAC definition of a location. That provider's model obligations require that broadband be available to more than 1,100 locations. That means this rural provider is facing a locations gap of around 300 locations, or more than 25%. This model company, along with others similarly situated, could face non-compliance penalties because of this substantial "locations gap."

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[5] Connect America Fund, Report and Order, FCC 14-190, ¶38 (December 2014).

[6] Frontier Communications "Connect America Fund, WC Docket No. 10-90" Filed December 30, 2015 by Michael Golob.

4. CAF II Auction "Due Diligence"

Vantage Point is working with dozens of companies interested in bidding in the CAF II Auction. Some of those companies have begun doing "due diligence" in advance of the auction, as has been recommended by the Wireline Competition Bureau.[7]

Performing accurate due diligence has proven to be difficult to perform, however. Conducting a "boots on the ground" assessment is accurate, but is quite expensive and is not a realistic option for each of the hundreds of bidders and 36,000 census block groups likely to be involved in the auction. Web-based due diligence is a less expensive option, but has certain location classification and accuracy weaknesses.

To the extent that Vantage Point has utilized web-based due diligence, it also provides evidence of a significant "locations gap." For example, in Figure 3 the census block in question is shaded green. The FCC CAF II preliminary list identifies four eligible locations that would receive funding within this census block. VPS engineers have mapped this census block and overlaid it with satellite imagery. Figure 3 illustrates that there appear to be no locations within this block group that would count as a CAF II auction eligible location.

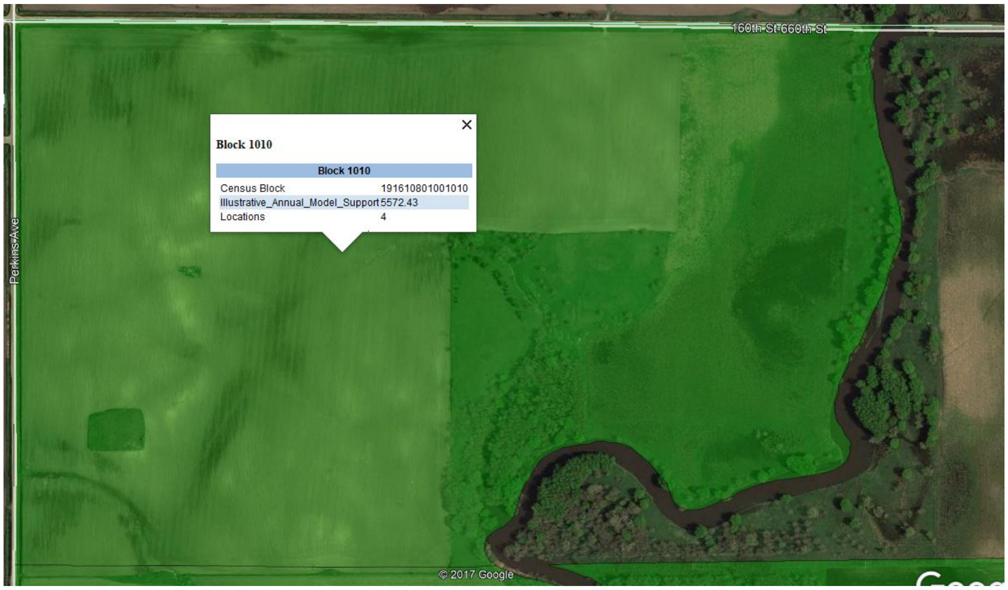

Figure 3. Satellite imagery of a CAF II auction census block.

Figure 4 below is another example of auction areas with a substantial locations gap. According to the FCC's CAF II eligible list, the census block shown in Figure 4 has 14 locations eligible. Using the satellite imagery, Vantage Point experts were only able to identify six actual locations (white squares mark a location) making a location gap of eight locations.

[7] Wireline Competition Bureau webinar on CAF II auction, September 11, 2017.

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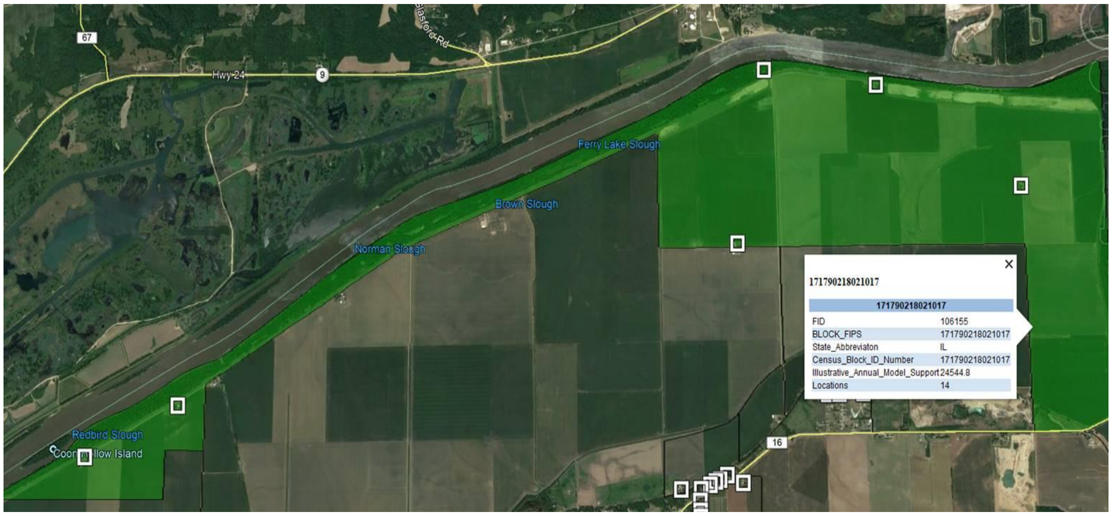

Figure 4. Satellite imagery of a CAF II auction census block.

The two examples are just a small sample of the many instances where Vantage Point has identified what appear to be substantial locations gaps in auction areas. Conversely, Vantage Point has not identified many census blocks (or census block groups) where model locations are less than the observable locations. As was noted in the 2015 Vantage Point study, in this environment (asymmetrical model deviation) model errors don't "balance out" over a large number of census block groups. Instead, those errors tend to compound, making the locations gap larger.

Request for Relief on "Locations Gap"

To provide auction winners the tools they will need to address significant locations gaps, Vantage Point Solutions urges the FCC to implement four relief mechanisms:

1. Allow carriers to deploy to 95% of required locations without reducing support

The Bureau has noted that "the Commission recognized that facts on the ground may necessitate some flexibility in the required number of locations, and thus allowed a carrier to deploy to 95% of the required number of locations, without a reduction of model-based support."[8] These flexibilities pertained to price cap carriers and their ROFR offers, but the order claims that "[the FCC expects] to provide similar flexibility to recipients of support awarded through the Phase II competitive bidding process . . . "[9]

[8] Stated by WCB staff during the October 6, 2016 webinar and reiterated in subsequent FAQ documents, http://www.usac.org/_res/documents/hc/training/2016/2016-Oct-Rate-of-Return-Order-Webinar-QAII.pdf and https://usac.org/_res/documents/hc/training/2016/2016-Oct-Rate-of-Return-Order-Webinar-QA.pdf.

[9] Connect America Fund, Report and Order, 29 FCC 14-190, ¶35 (December 2014).

The 2016 Rural Rate-of-Return Order[10] for carriers receiving model-based support also had flexibility in regard to deployment obligations for rate-of-return carriers. The FCC stated that

> *"When the Commission adopted flexibility in deployment obligations for price cap carriers accepting model-based support, we recognized that the 'facts on the ground' when they are deploying facilities may necessitate some flexibility regarding the number of required locations. Because rate-of-return carriers electing model-based support may face similar circumstances, we find that providing the same flexibility and allowing deployment to less than 100 percent of the requisite locations is equally appropriate for these carriers as well. We therefore will permit them to deploy to 95 percent of the required number of locations by the end of the 10-year term."*[11]

The model deficiencies that prompted the FCC to appropriately provide relief to both price cap and rate-of-return carriers exists in CAF II auction areas, and the opportunity for non-incumbent CAF II bidders to conduct robust due diligence is less than was available to earlier recipients of model offers. Accordingly, Vantage Point requests the Commission provide similar, or greater, deployment flexibility to companies winning areas in the CAF II auction."

2. Expand the definition of "location" to better meet "facts on the ground"

Vantage Point Solutions urges the FCC to use a practical and broad definition of "location" when determining how to determine compliance with buildout requirements. The current narrow definition threatens to exacerbate the location errors contained within the CACM model (and the resulting deployment obligations).[12] In addition, companies using satellite imagery to "count rooftops" will end up counting a number of facilities that do not qualify as "locations" under the current definition.

The current definition is also not a good fit for the emerging realities of broadband deployment. In the future, an increasing number of locations not defined as a "residence" or a "small business" by the Census Bureau will require broadband connections. The "Internet of Things" will provide substantial benefits to rural areas, and to better account for that future, the FCC should allow agricultural-based and utility-based facilities not considered a "residence" or a "small business" to be counted as locations for the purposes of meeting deployment obligations.

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[10] FCC's "Rural Rate-of-Return USF Reform," Report and Order, FCC 16-33, (March 2016).

[11] Ibid, ¶33.

[12] Actual FTTP buildouts, such as those analyzed in the 2015 Vantage Point study, deploy broadband to locations that may not be strictly considered "housing units" or "small businesses." The location gap between the model and real world deployments will be even more pronounced than suggested by the VPS study if RLECs are denied credit for building to otherwise legitimate sites that do not meet a narrow definition of "location."

3. Allow carriers having service available to all *actual* locations in a census block to receive credit for having service available to all *model-indicated* locations within that census block

Additionally, the FCC should consider providing an additional mechanism for companies who have made the proper network investments throughout a census block but still find themselves falling short of model obligations. In instances where the number of model-indicated locations contains "phantom locations" that do not exist and cannot be served, companies should be able to certify that all known locations within a census block have service available to them.

After making such a certification, companies would receive credit for the number of locations the model indicates are present. In the case of the census block shown in figure 4 (on page 5), the company would build network assets throughout the census block, and provide service to all six known locations. Rather than being penalized for not serving the eight "phantom locations" that do not exist, though, the winning bidder would receive deployment credit for all 14 locations the model indicates are in that census block.

Companies making such a "fully served" certification could be required to build to all new locations as they emerge or request service, even if the costs to do so exceed the "reasonable request" standards. In this way, companies would not make the "fully served" certification lightly and the FCC can rest assured that the census block will always remain "fully served."

4. Allow carriers to reduce deployment obligations with a commiserate support reduction

The FCC has acknowledged the weaknesses of the CACM and ACAM models, and in previous orders has established an additional relief mechanism for companies who find that "facts on the ground" deviate substantially from what is indicated in a model.[13] The FCC has said that in those instances, companies will have an opportunity to reduce their deployment obligations, with support funding being reduced by a commiserate, pro-rata amount:

> *"We encourage price cap carriers accepting model-based support to promptly bring any situations involving a known disparity between the number of model determined locations and the actual number of locations in a state to the Commission's attention . . . We delegate authority to the Bureau to address these types of situations by adjusting the number of funded locations in the relevant state and the associated funding levels on a pro rata basis."* [14]

Similar language was included in the 2016 Rural Rate-of-Return Order.[15] Although this mechanism is not ideal, it does provide some relief to companies who would otherwise face

[13] FCC's "Rural Rate-of-Return USF Reform," Report and Order, FCC 16-33, ¶33 *(*March 2016).

[14] Connect America Fund, Report and Order, FCC 14-190, ¶38, footnote 88 (December 2014).

[15] "Carriers that discover there is a widely divergent number of locations in their funded census blocks as compared to the model should have the opportunity to seek an adjustment to modify the deployment obligations. Consistent with our action for Phase II in price cap territories, we delegate authority to the Bureau to address

substantial non-compliance penalties because of inaccurate model data. Accordingly, Vantage Point urges the commission to make this mechanism available to CAF II auction winners, as well.

Conclusion

Vantage Point has appreciated the FCC's ongoing willingness to adjust its plans for USF reform as it has received feedback from the industry. There are well-documented weaknesses in how the model identifies the number of locations available in a census block, and there are not highly accurate and reasonably priced "due diligence" mechanisms for auction participants to identify those weaknesses prior to the auction. As a result, the FCC should be proactive in establishing robust relief mechanisms to aid companies who would otherwise be punished through no fault of their own.

Establishing these relief mechanisms well in advance of the auction will reduce "locations gap" concerns and will increase the confidence of likely bidders, making for a more successful auction and a more effective and efficient deployment of USF resources.

Respectfully submitted,

Dustin "Dusty" Johnson
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these discrepancies by adjusting the number of funded locations downward and reducing associated funding levels." FCC's "Rural Rate-of-Return USF Reform," Report and Order, FCC 16-33, ¶34 *(*March 2016).

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